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THE RELATION BETWEEN AND THE CONTROL OF MANUAL ARTS AND VOCATIONAL EDUCATION¹

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The purpose of this paper is to show how the present public-school facilities may be reorganized to meet the demands, not only of public-school manual arts, but of vocational education as well.

The public from time to time hears of some wonderful discovery, for example in the field of medicine. Immediately a new class of doctors appears, and the claim set forth by them is this: We have found a new way to treat people for an old disease. We are the only physicians who can effect a cure.

In our educational progress at the present time the new doctor is the man who is advocating vocational education as the only means of keeping boys in school. He is the physician of *general* practice, however. But there is the specialist. He does not treat the boy who has any one or all of many aches and pains and who would relieve himself by quitting school. He is the man who prescribes for the boy who has just one particular kind of a pain, *viz.*, a heartache to do real industrial work. This boy has taken medicine that we call manual training, but because it has not been given in large, allopathic, bitter-pill doses he has not entirely recovered from his trouble. His pain is simply reduced by this treatment; or perhaps, as in the case of many a misapplied potion, it has been aggravated thereby. The only way to cure him, says the industrial educationalist, is to give him an old-fashioned dose of sulphur and molasses without any peppermint in it. Hard work and long hours with eyes always fixed upon the one goal—a wage-earning job—is the ultimatum.

Now I take it that very few people believe there is *only one way* to cure a boy from wishing to leave school, any more than we

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believe there is only one way to cure one from some physical ailment. Neither do I think that many of us believe it necessary always to prescribe *an entirely new method* in education any more than I believe we think it is always necessary to prescribe an entirely new and perhaps drastic means of curing some ailment of the body.

What I do believe is this: Most of us feel certain that in old methods which have had some degree of success in producing desired results there must be something worth while, even though the conditions under which the means have been used have changed; also, that in many well-thought-out new methods there must be much that deserves consideration. Consequently with reference to our present educational problem, "How shall we provide for vocational education?" I assume that, with me, you may believe two things, viz., (1) that in the old method of securing motor activity of an industrial type, that is, manual training, there must be something good, even at the present time when industrial education is the advocated cure-all for most educational ills, and (2) that in industrial education there is subject-matter, and method too, perhaps, which should be regarded as the best we know at the present time and therefore should be used.

These assumptions are made partly because school teachers are known to be of conservative mind—a mind, which, however, is not ultra-conservative, for it is not only willing but eager to respond to all that is new, if the new has in it the promise of reliability.

The statement printed upon the front page of an educational program which I saw recently suggests the attitude of teachers toward transition in educational matters. The statement follows: "Our system of education must be continually modified to meet new conditions, if it is to train boys and girls to meet the emergencies and seize the opportunities of modern life. The ideal system is the one which best meets the vital problems of the present and the future!" If we are all in accord with the underlying thought in this quotation, particularly in two essentials, viz., (1) that the present system must be "continually modified" and (2) "that the ideal system must meet *both present and near-future problems*," we shall be sympathetic in this discussion.

Before entering upon the main part of my theme, may I give briefly, and in a non-technical way, a few definitions:

1. *Manual arts* means what we usually think of as the subject-matter of public-school drawing and shop work.

2. *Manual training* is the method or process involved in teaching the manual arts.

3. *Vocational education* is that form of education the purpose of which is to prepare for particular productive service.

4. *Industrial education* is that part of vocational education which prepares for industrial service.

It will be seen upon reflection that the real difference between the manual arts and vocational education, if the above definitions are correct, is about, if not quite, the same as the difference between multiplying 2×4 for the sake of mental discipline and multiplying 2×4 to find out what four two-cent postage stamps cost. In the first case we have an example of generalization; in the second case we have an example of specialization. You reach the conclusion—a correct one I believe—that manual arts is a form of *general education* while vocational education is a form of *special education*, or education for a particular end.

It is because the manual arts in our public schools have not been properly differentiated and specialized that they have not been vocational. If we wish to make them vocational then we shall differentiate them and make them special in character.

Can we do this and if so shall we in our existing public schools?

My answer is that *we can* and that *we should*.

The agitation for vocational education has been vital to our American people for five years past. It is vital for three reasons:

1. It is vital because it is the result of an economic demand. We are told by the manufacturers through the National Association of Manufacturers that America is running far behind its competitors in the Old World in the race for industrial supremacy. We no longer have skilled labor in America they tell us. We are further told by this association that through industrial training as a form of vocational education we may hope to secure a sufficient number of skilled mechanics to meet the demand. In the process, also, at least one-half of the school population beyond the age of fourteen

will be saved from a precarious livelihood—the result of an unskilled and consequently, truly speaking, unproductive labor—a form of labor in which boys and girls engage as soon as the state permits them to leave school and go to work.

2. It is vital because it is the result of a social demand. No less a personage than Miss Jane Addams of Hull House, Chicago, has quite conclusively proven this. All associations for civic and social betterment are agreed that the man or woman who possesses skill in some form of industry is a happier, a more helpful social being and a better citizen thereby. Formerly, the distinction between the "cultural" and "bread-and-butter" aims in education was drawn sharply. It was considered unsocial and even sordid to pursue knowledge with the hope of improving one's career in a financial way. Today this idea is changed. Instead of being sordid or basely utilitarian, Professor Frank Leavitt of the University of Chicago says about vocational education, or the education for utilitarian ends, that it "represents one of the finest ideals which the human mind has conceived, and sets forth a philosophy of life which can be fully realized under no other conditions than complete solidarity."

3. It is vital because it is the result of an educational demand. It may be that the educational workers of the country are always a little behind the economic and social workers in seeing the real need of the masses and adjusting their machinery to meet the need. However, the adjustment is always made. It has been made in the past to line up with political changes and it will be made now to accord with industrial changes. The National Education Association and every state and local educational association is keyed up to the point which demands adjustment in educational means and methods to solve the great educational problem of the hour.

Now both the manufacturers and the labor unions have tried to solve the problem of vocational education in the form of industrial education by each organizing schools to make better industrial workers and likewise better citizens. The result has been conflict growing out of misunderstanding and perhaps prejudice and jealousy. The manufacturer has accused the labor union, as the labor union has accused the manufacturer, of exploiting youth in

the specially endowed school for the special interest represented by the organization which established the school.

So, does it not become a public-school problem? It would seem so to me, and I think it must seem so to all of us who are charged with the problem of educating the American youth, without reference to the special interests of any particular individual or set of individuals save the boys and girls themselves. Their interests we must certainly regard and conserve. Have we done so in the past? Yes, to the best of our ability. But have we constantly kept in mind the fact that with each new year our younger companions in school are surrounded by a changed social and economic atmosphere? Perhaps so, but it has not always been evident from the adjustments we have made from year to year. On the dynamic side of our education we have fortified ourselves with what we have called the vocational studies: the commercial branches, agriculture, domestic science, and the manual arts, and then with the conviction of the man who trusts in the Almighty for his daily sustenance without himself making an effort to provide for the needs of the day, we have failed to exert ourselves further. The result has been stagnation. It has come through so-called vocational work, but in the guise of manual training for "cultural" ends alone. Gradually these vocational subjects have become more and more formal until by main force, as it were, interests outside of the school system have aroused us from our apathy.

Again we are given the opportunity truly to vitalize and motivate our vocational work and make it *real*.

I would not in this apparent arraignment of our past methods even suggest that what we have called manual training, for example, has not been worth while. It has; but as a general educational means, not as a vocational means. What we are now called upon to do, if we will, is to make it both educational and vocational. And I truly believe that if we do not accept this opportunity—one which the educators of twenty-five or thirty years ago had but failed to accept—we shall not be given a similar opportunity again. If we but read the signs we cannot but see that some way, somehow, the estimated 85 per cent who will not accept our methods of the

past are to be given methods adapted to their environment—one which is largely industrial, we are told. The fathers and mothers of these boys and girls are engaged in an economic struggle in which industrial activity plays an important part.

Now, "necessity is the mother of invention." We have been confronted with the necessity for vocational education; we have invented a means of giving it. And what is the invention? State laws for vocational education in twenty-nine of the states of the Union with several others seeking the enactment of vocational education bills into laws during the legislative sessions of the present year. And what is the result of the inventions—these laws? Vocational schools of *two kinds*: (1) those placed under the administrative control of existing boards of education; (2) those placed under the administrative control of new boards, usually called industrial education boards.

In general it may be said that the first of these two schools seeks to utilize present resources and facilities by extending and expanding them so that there shall be a reformation rather than a revolution. The second of these two schools for the most part fails to recognize anything good in the schools as they exist and works upon the theory that nothing good can come out of Nazareth; therefore we must create anew.

In the particular field of educational work in which I am especially interested the first school says to its manual-arts director: "Here is a new problem. I believe you can solve it. We will give you the benefit of the judgment of our representative manufacturers and industrial workmen. You may employ expert commercial workmen, purchase new machinery, and have more time in which to do your work. Your problem is one of *adjustment*. In making the adjustment, maintain *not* the traditions of the past, but the vitalizing educational *purpose* of the work of the past which has been found lacking in subject-matter only."

The second school will have nothing to do with the manual-arts teacher of the past. In the spirit of revolution, rather than evolution, it sets up an entirely new organization. It employs a man from the shops who may be and probably is an excellent workman, but who may not be and usually is not a teacher. It pur-

chases an entirely new equipment, puts it into a new building, and says to the prospective instructor: "Here is a class of boys who have tired and sickened of the public school and its *play*. Put them to work. Train them (mind you, train them, not educate), train them to be skilled workers in your occupation."

My illustration is an extreme one, but by it I wish more clearly and surely to make my point, viz., each school is attempting to solve a *single* problem: the most effective education of the boys (or girls in the case of girls' vocational schools) who need vocational work to satisfy their craving for instruction which will do two things: (1) prepare them directly for productive employment, and (2) prepare them for better living.

Now, as is the case with almost everything that exists, there is good in both of these schools and in their methods. The question we have to answer is this: Which one has the greatest possibility in it for the boys and girls themselves? Each one of us must answer this question for himself, but we may be helped in reaching a conclusion if we will consider a somewhat similar question, but one which takes us out of the schoolroom and away from its atmosphere.

Would you or would I, if we had a large sum of money to invest in some new enterprise, put it into the hands of a number of trained men who had the reputation of being honest, earnest, and capable in the conduct of general business, and who would join with them experts in the particular new business to be undertaken, that they might counsel with these new members and perhaps allow their judgment to carry in the case of special or new points which were carefully considered by all? Or would we put our money into the hands of a special committee whom we also knew to be honest and earnest, but whose business ability had been tested in the handling of their own special affairs and in a way which had little or no relation to the general affairs under community control in which the first group of men were well versed?

Again, perhaps, my illustration is not well chosen, but you see the point of it I am sure.

Are we going to intrust vocational education to a fair-minded board of education with a special committee made up of men experienced in both the management and actual operation of the

vocations concerned, or are we going to have this special committee or board, disconnected with the existing school organization, act alone? It is the much-mooted question—a debatable one—whether vocational education shall be administered by a unit or a dual system of control.

For the manual arts, it means this: Shall we continue to utilize our present facilities both in physical equipment and individual instructors for an extended and expanded manual arts which shall either become vocational in character, or include vocational education, or are we going to encourage and finally allow, without effort on our part, manual arts for vocational ends to be controlled by administrators who have little or no immediate knowledge of the educational significance of this important connecting link between book work and the work of productive labor? And shall we allow this work to be taught by men who come from the shops without their having some training for the great work of teaching?

The question is already being answered and answered by the very natural means of practical experiments. In Wisconsin we are experimenting—I think I can say no more than this—with the *dual system* of control and the shop man as teacher. In New York, New Jersey, Ohio, and other states the unit system of control is in vogue, and in these states, as in Wisconsin to a degree, both manual-arts teachers and shop men are acting as teachers. From what observation I am able to make—and I come in contact with a good many schools and teachers of industrial work every year—the idea of unit control is in the ascendancy. I cannot speak as positively with reference to the teacher. As Dr. David Snedden, commissioner of education for Massachusetts says: "We are obtaining teachers much as the early settlers obtained their food—we are trusting to an accidental and variable supply produced by no effort of our own."

And yet it is perfectly evident now as it proved to be when manual training was first introduced in our schools that the man of actual shop experience, who has been trained to teach, is meeting with much more success than is the shop man who may perform his daily work at the bench or machine with great success,

and who may be able to train an individual apprentice but who cannot secure a systematic development in the same work with a *class of boys*. It is the old problem of turning the trick by having the power of organization and the ability to impart knowledge.

I would not be understood to say that the shop man cannot teach. My experience during the past two years in a continuation school for mechanics in which they are being trained for industrial teaching makes me feel certain that intelligent shop men properly trained may make some of our best teachers. I most thoroughly believe, however, that the wide-awake manual-arts teacher who has had some good commercial shop experience has much the advantage over the shop man unless the latter will spend a larger time in academic and professional teaching preparation than the manual-arts teacher will need to spend in a commercial shop. I cannot agree with Mr. C. A. Prosser, secretary of the National Society for the Promotion of Industrial Education, that a man must spend not less than five years in the commercial shop to be prepared to teach industrial work.

Nor would I be understood to say that the manual-arts department to retain its educational significance, nor the industrial school to maintain an educational atmosphere, must not have in it a shop man. To my mind unless the manual-arts teacher is a man of considerable commercial shop experience he must have associated with him in his work, not only advisers from the shops, but men from the commercial shops who will teach with him.

What is needed on the side of administration is a combination of manufacturers or employers of labor, employees, and school men in the administrative body which now exists, viz., the public-school board, and what is needed in the teaching is a combination of the school teacher and the shop workman. Get him in one person, if possible, either from the ranks of manual-arts teachers or from the commercial shop. What is needed is a man of commercial shop experience with teaching ability coupled with good character, virility, and the proper sympathy with the work he is doing for boys. He must have a burning desire to make them both good workmen and good citizens.

Furthermore, it must always be true that every boy, whether

he differentiates, and to a degree specializes, in his school work, either in a regular or a special public school, must have the opportunity *to advance as far as his abilities will permit him*. If he is a permit boy in a continuation school he should first be trained both in vocational and non-vocational work to be a *better workman*. If he is a boy in a regular public school he should likewise be trained, at the time when his desire for active community life makes it necessary, to work hard and long at the thing in which he wishes to become proficient, but this thing should be of the applied and concrete type, not the formal and abstract. Herein lies the chief suggestion for our public-school manual arts.

It is all a part of the great problem of universal education, and as Dean Eugene Davenport of the University of Illinois has said: "The best results will always follow when as many subjects as possible and as many vocations as may be are taught together in the same school, under the same management, and to the same body of men."

Differentiation and a certain amount of specialization is needed as early as the sixth grade. It should be preceded by a type of work, both vocational and non-vocational, and this prevocational work should be furnished in applied, concrete problems, if possible, that will show the connection between school and the work-a-day world. *But the exploitation of youth must always be a moral and therefore an educational impossibility.*